NEW YORK STATE MECHANIC.

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KNOWLEDGE FOR THE PEOPLE.

Why is Wootz or Indian steel the most valuable for making edge tools?

Because it is combined with a minute portion of the earths, alumina and silica; or rather perhaps, with the bases of these earths. Whether the earths are found in the ore, or are furnished by the crucible in making the steel, is not certainly known; nor is the Indian steel-maker probably aware of their presence. Wootz, in the state in which it is imported, is not fit to make into fine cutlery. It requires a second fusion, by which the whole mass is purified and equalized, and fitted for forming the finest edge instruments.—*Brande.*

Why does a razor operate best when dipped in hot water?

Because the temperature of the blade has been raised, and the fineness of the edge proportionally increased.

In some experiments, the knife edges attached to the pendulum described by Captain Kater, on being carefully hardened and tempered in the bath at 432°, were, on trial, found too soft. They were a second time hardened, and then heated to 212°, at which point the edges were admirably tempered. This, it will be remembered, is the heat of boiling water, and further illustrates the preceding question.

In the manufacture of a razor, it proceeds through a dozen hands; but it is afterwards submitted to a process of grinding, by which the concavity is perfected, and the fine edge produced. Scissors, in like manner, are made by hand, and every pair passes through sixteen or seventeen hands, including fifty or sixty operations, before they are ready for sale. Common scissors are cast, and when riveted, are sold in England as low as $1. per gross! Small pocket knives too are cast, both in blades and handles, and sold at $1,37 per gross, or a cent each! These low articles are exported in vast quantities in casks to all parts of the world.

ZINC.

Why is Zinc useful in the arts?

Because, in combination with copper or tin, in various proportions, it forms some of the most useful compound metals or alloys. Thus, with copper, it constitutes brass, pinchback, and tombac; with little copper, Prince's metal; with tin and copper, bronze.

Roofs covered with zinc are very numerous in the Low Countries but have one bad quality. In cases of fire, the zinc being very combustible, soon becomes inflamed, and falling all around, occasions great danger to those who approach the building. In short, zinc is the most combustible metal we have. If beaten out into thin leaves, it will take fire from the flames of a common taper.

Why has the oxide of zinc been substituted for white lead in house-painting?

Because it preserves a good colour much longer: it is not, however, of so perfect a white as lead.

TIN.

Why did the ancients mix tin with their copper coins and edge tools?

Because it occasioned the coin to wear longer, and it imparted sufficient hardness to the copper to render it capable of forming very good cutting instruments. Mr. Parkes, in analysing several Roman brass coins, from various periods of the Empire, found tin to be a component part in all of them.

Why is not Spanish tin used in England?

Because it bears a prohibitory duty of 30*l.* per cent. It is raised in great quantities in South America, and is very pure, but not so neatly manufactured as the Cornish tin. According to Aristotle, the tin mines of Cornwall were known and worked in his time. Diodorous Siculus, who wrote 40 years before Christ, describes the method of working these mines, and says, that their produce was conveyed to Gaul, and thence to different parts of Italy. The miners of Cornwall were so celebrated for their knowledge of working metals, that about the middle of the 17th century, the renowned Becher, a physician of Spire, and tutor of Stahl, came over to this country to visit them.

A celebrated tin mine was the famous *wherry mine*, near Penzance. The shaft through which the miners went down to work, was situated nearly 100 yards below water mark. "The opening of this mine" says Dr. Maton, "was an astonishingly adventurous undertaking. Imagine the descent into a mine through the sea, the miners working at the depth of 17 fathoms below the waves; the rod of a steam engine, extending from the shore to the shaft, a distance of nearly 120 fathoms, and a great number of men momentarily menaced with an inundation of the sea, which continually drains in no small quantity through the roof of the mine, and roars loud enough to be distinctly heard in it." The working of this mine was wholly given up in the year 1798.

Such is the mineral wealth of Cornwall, that it contains more men, who possess fortunes, sprung from the mines, of five and from that to twenty thousand pounds, than there are in any other county of England, excepting the metropolis and its vicinity; and there are some instances of individuals acquiring from fifty to two hundred thousand pounds, from the mines, and by a fortunate course of trade.

Why should tin be chosen for its lightness?

Because its purity is in exact ratio with its levity; while gold, on the contrary, unless alloyed with platinum, is fine in proportion to its density.

Why is tin so important to the dyer?

Because it is employed to give a brightness to cochineal, archil, and other articles used in forming reds and scarlets; and to precipitate the colouring matter of other dyes. For these purposes it is previously dissolved in a peculiar kind of *aqua-fortis*, called *dyers' spirit.*

Tin is consumed in large quantities by the dyers; it is also used for covering sheet iron to prevent its rusting, and in forming plumbers' solder, speculum metal, pewter, and some other alloys. Its oxides are used in polishing glass, in glazing some kinds of earthenware, &c.

Why is tin-plate so called?

Because it is made by dipping clean iron plates into melted tin. When tin-plate is washed over with a weak acid, the crystalline texture of the tin becomes beautifully evident, forming an appearance which has been called *moire metallique.*

Why are pins whitened by boiling in grain-tin and supertartrate of potash?

Because the tartaric acid first dissolves the tin, and then gradually deposits it on the surface of the pins, in consequence of its greater affinity for the zinc, of which the brass wire is composed.

LEAD.

Why is lead employed in refining the precious metals?

Because when mixed with them in a great heat, it rises to the surface combined with all heterogeneous matter. Lead is employed to cover buildings, to form water pipes, (though Vetruvius, the Roman architect, in the time of Augustus, condemned this practice,) and to make a great variety of vessels for economical purposes. Its oxides are used for dyeing and calico-printing, in the manufacture of glass, earthenware, and porcelain: and lead is capable of forming various alloys. There is also a large consumption of lead in making shot.

Why is lead employed in the manufacture of white metal buttons?

Because it has been discovered that a certain proportion of lead may be mixed with the metal formerly used, without injuring the appearance of the button; thus affording a very considerable additional profit to the manufacture.

Why is lead employed to correct harsh wine?

Because it has the property of imparting a saccharine taste when dissolved in acids, as in that of the wine. The ancients knew that this metal rendered harsh wine milder, but it was not universally known to be poisonous. According to Pliny, the Greeks and Romans proved the quality of their wines by dipping a plate of lead in them. Lead will also take off the rancidity of oils.

Why were blocks of lead called pigs?

Because they might be distinguished from larger blocks, called *sows*, which latter term is still retained in the *sow-metal.* In 1773, a pig of lead was dug up near Tamworth, with an inscription of the date 76, A. D., or 1697 years old; thus proving lead to have been used by the Romans in England.

Why is lead cast in such regular sheets?

Because the melted metal is suffered to run out of a box through a long horizontal slit upon a table prepared for the purpose, while the box is drawn by appropriate ropes and pulleys along the table, leaving the melted lead behind it in the desired form, to congeal. The lead thus cast is then passed between two iron rollers placed at such a distance from each other, as will reduce it to the requisite thickness.

Why is common lead changed into red lead by melting it in ovens with a free access of atmospheric air?

Because the lead absorbs so much oxygen as to became converted into an oxide. Thus, the melted lead is exposed until the surface is covered with a pellicle; this pellicle being removed, another is formed; and thus, by successively removing the pellicle as it forms, the greater part of the lead is soon changed into a yellowish-green powder. This powder is then ground in a mill, and when it has been washed and properly dried, is thrown back into the furnace; and this, by constant stirring for thirty or forty hours, so as to expose every part to the action of the air, becomes red lead, and is taken out for use. Twenty cwt. of lead generally give 22 cwt. of red lead; so that 2 cwt. of oxygen are absorbed from the atmosphere during the process.

The only important alloys of lead are those with tin. Common *pewter* consists of about 80 parts of tin and 20 of lead. Equal parts of lead and tin constitute *plumbers' solder;* and what is termed *pot-metal*, is an alloy of lead and copper.

Plumbago, graphite, or *black-lead*, is generally regarded as a true carburet of iron: it is not uncommon, though rarely found sufficiently pure for pencils; the coarser kinds, and the dust, are melted with sulphur, for common carpenters' pencils: it is sometimes used in manufacturing crucibles, and in compositions for covering cast-iron, and for diminishing friction in machinery.

Why is common white-lead made by exposing sheet-lead to acetic acid?

Because the fumes of the acid oxidize the metal. Thus, a number of crucibles, holding from three to six quarts each, and nearly filled with vinegar, are placed in hot-beds to tan: upon these crucibles thin sheets of lead, rolled up in coils, are placed, one coil over each crucible. The heat of the bed occasions the vinegar to rise in vapours, and this

attaches itself to the lead, and oxidizes its surface to a considerable depth. The oxide which has been thus formed, is scraped off, and the coils of lead replaced: in this manner the operation is repeated, until the whole of the metal is oxidized. This oxide, which contains a portion of carbonic acid, is afterwards washed, and ground for sale.

Why does linseed-oil, boiled with red-lead, become drying oil?

Because the oxygen of the metal combines with the oil, imparting to it the property of drying quickly.

THE COBBLER OR MESSINA.

This person lived in the last century. He was honest and supported his family by his own industry. He was always a man of reflection; he saw the corruptions, luxury and oppression, the private frauds, and public robberies, the enormous violation of justice, under which his country labored. He saw rapes unpunished, and adulteries unreproved; barbarous murders either screened by corrupt senators, or atoned for by money. In a word, he saw a universal degeneracy of manners prevail, partly from the want of will, partly from the want of power in the government to chastise offenders. In this situation he resolved to undertake the arduous task of reforming those disorders, and thought it both lawful and expedient to assume the authority of the avenger of the innocent, and the terror of the guilty.

Full of this romantic resolution, he provided himself with a short gun, which he carried under his cloak, and equipped with a powder pouch on one thigh, and a bag of bullets on the other, he sallied out in the evening, and as proper opportunities offered, dispatched such as he knew to be incorrigible offenders, to that tribunal where he was sensible they could not elude justice; and then returned home full of that satisfaction which is the sole reward of public spirit. As there was in Messina a great number of overgrown criminals, the cobler in the space of a few weeks, did very great execution. The sun never rose without discovering fresh marks of his justice; here lay an usurer who had ruined hundreds; there an unjust magistrate who had been the curse of thousands; in one corner a nobleman who had debauched his friend's wife; in another, a man of the same rank, who had through avarice and ambition prostrated his own; but as the bodies were untouched, with all their ornaments about them, and very often with considerable sums in their pockets, it was visible they were not dispatched for the sake of money, and their numbers made it evident, that they were not the victims of private revenge.

It is not in the power of words to describe the astonishment of the whole city. Things at last came to such a pass, that not a rogue of any rank whatever, durst walk the streets; complaint upon complaint was carried to the viceroy, and magistrates, guards, spies, and every other engine of power was employed to no manner of purpose. At last, when no less than fifty of these examples had been made, the viceroy took a serious resolution of putting a stop to such mischiefs by the only method that seemed capable of reaching the evil; he caused public proclamation to be made that he would give the sum of two thousand crowns to any person who should discover the author or authors of the murders; promising at the same the like reward, with an absolute indemnity to the person who had committed them, if he would discover himself; and as a pledge of his sincerity he went to the cathedral, and took the sacrament that he would punctually perform every tittle of his proclamation.

The cobbler now having satisfied his zeal for justice, or being in a temper to secure his own safety, after having, in his opinion, done so much service to the state, went directly to the palace and demanded an audience of the viceroy; to whom, upon his declaring that he had something of importance to communicate, he was admitted alone. He began with putting his excellency in mind of his oath, who assured him he meant to keep it religiously. The cobbler then delivered the following harrangue.

"I, sir, have been alone the instrument of justice which dispatched in so short a time, so many criminals. In doing this, sir, I have done no more than what was your duty to do. You, sir, who are in reality guilty of all the offences which these wretches have committed, deserve the same chastisement, and had met with it too, had I not respected the representative of my prince; who, I know, is accountable to God alone." He then entered into an exact detail of all the murders he had done, and the motives upon which he proceeded. The viceroy, who was fully convinced that he told no more than the truth, repeated his assurance of safety, and thanked him very affectionately for the tenderness he had shewn him; adding, after, all, he was ready to pay him the two thousand crowns.

Our cobbler returned the viceroy his compliments in his rough way; but told him, after what had passed, he believed it would be prudent in him to make choice of some other city for his habitation; and that, too, in some corner of Italy not under the jurisdiction of his Catholic majesty. The viceroy thought his reasons had weight, and therefore, after thanking him in the most gracious terms, for supplying that power which the government wanted, he ordered a Tartane to transport him, his family, his effects, and two thousand crowns, to one of the ports in the territory of Genoa, where this extraordinary person passed the remainder of his days in ease and quietness. For a long time the city of Messina felt the happy effect of his enthusiastic zeal for the public good, and for the strict execution of justice without respect to persons.

MR. RHODES THE AMERICAN ARCHITECT AT CONSTANTINOPLE.

We spent the evening with our kind, agreeable companion, Mr. Rhodes. As a specimen of our countrymen, Mr. Rhodes is an interesting object to every American who visits Constantinople. He is a self-made man; and though now basking in the sunshine of wealth and royal favor, retains a delightful and unaffected simplicity, which reminds us so much of home, that it is a pleasure to be with him. It is singular how much energy of mind will accomplish. Mr. Rhodes was born and lived in Rhode Island until he was fourteen years of age, and had only the advantage of a country education, under a master who had kept the same village school for twenty-eight years, without adding to or changing any of his ideas; but his pupil had a natural taste for mathematics and mechanics, and overcame all obstacles. He is now that most respectable of beings—a scientific mechanic. Mr. Rhodes accompanied Mr. Eckford from New York to Constantinople, and engaged with him in the service of the sultan. But Mr. Eckford had not completed one vessel when he suddenly died, and the whole business devolved upon Mr. Rhodes, who determined to go away as soon as the vessel was finished, but he received such offers as induced him to remain.

The first ship launched by the American architect presented a scene of general interest. The sultan, who takes particular pride in his navy, came down to the ship yard and had his silken tents spread; while the captain-pacha, attended by two or three hundred men provided with ropes, made ready to draw the vessel, *a la Turk*, into the water.

"What are you going to do?" said Mr. Rhodes.

"To help you," answered the Turk.

"But I do not want any help," said Mr. Rhodes with surprise. "I have five or six men."

The Turk stared—Mr. Rhodes gave his orders—the supporters were cut away, and in an instant the noble vessel tracked the waves with fire. The sultan sprang up, clapped his hands and cried '*Mashallah*'—wonderful! It was a miracle. Such a thing was never before seen in Turkey. This will give some idea of how little the Turks know of the reduction of *manual labor*. The next day, Mr. Rhodes was very busy in the ship yard; he had off his coat, his sleeves were rolled up, and his dress all besmeared with paint; a man came to him saying, the captain-pacha wanted him in a great hurry. He immediately stepped into a boat and was removed off to the palace.

The pacha met him, saying, "the sultan wishes to see you."

"But I have no coat on," said Mr. Rhodes.

"I cannot help that; his sublime highness waits," replied the pacha.

So poor Mr. Rhodes was ushered into the royal presence in the most uncourtly array. His first *salam* was accompanied by an apology for his dress. "I do not want your clothes, but you," said the sultan. From that day favors have fallen thick upon our countryman. The sultan once proposed to make him instead of master of the arsenal, constructor general of the empire—the highest dignity he could bestow upon him in his line of business. A pacha was sent to inform him of the honor intended him.

"I cannot accept it," was Rhodes' reply.

"But the sultan wishes to honor you."

"I know that," continued Mr. Rhodes; "but now I am a private man, and can mind my own business without any body's minding me; and if you give me this splendid decoration, you only make me a mark for the shafts of envy, and I am no more safe."

"It will cost me my life to tell the sultan you refuse this honor," said the poor pacha, turning white.

They consulted about and discussed the subject for three days, at length, as the pacha could not prevail, he ventured to tell his despotic highness what Mr. Rhodes said. The only reply was, "very well," and the subject was dropped—but not the sultan's more substantial favors. Mr. Rhodes showed me some rich shawls and splendid jewels which had been sent as presents to him; and he is provided with a princely establishment. His luxuriant eastern halls are ever opened to the many American travellers who visit the city; and to all he shows the kindest attentions. I examined many of his drawings and models for ship building, and became quite interested in the science.—*Southern Literary Journal.*

INVENTIONS, DISCOVERIES, ETC.

SELF REGULATING STOVE.—FOOTE'S. PATENT.

Above we give a representation of a new article of heating stove, designed for the parlor or sitting room, invented by O. Foote Jr. Esq., of Seneca Falls, and manufactured by Messrs E. W. Pratt & Co., of Albany.

A remarkable property possessed by this stove, differing in that respect from all others, is that of governing its own heat, so as to maintain, without variation, the precise degree which may be required. It is impossible without drawing

full description of the manner in which this is effected, a general idea however may be formed.

Within, in the upper part of the stove, is placed a brass rod, straight and inflexible, from the expansion and contraction of which motion is obtained. Should the heat rise too high, the expansion of the rod, acting upon levers, by which the motion is much increased, is made to close the damper that governs the admission of air (seen in the lower part of the drawing.) Or should the heat fall too low, the contraction of the rod opens the damper and admits a draft. A sufficient quantity of fuel being placed in the stove, its burning is held in constant check by the closing of the damper consuming no faster than a want of sufficient heat to keep it closed admits. Thus is kept a uniform heat.

The manner in which the degree of heat at which the stove shall maintain itself is changed, is equally simple though not so easily described. A dial plate (seen in the upper part of the stove) on which is marked the different degrees of heat, is attached to the front of the stove; by moving the index of which, different degrees of expansion, and of course different degrees of heat, are required to close or to open the damper. By setting the index at any degree, the stove will immediately adapt itself to that point, and then remain without variation.

The whole structure has an elegant and substantial appearance, and the regulating apparatus is extremely simple and not liable to get out of order. Indeed it seems almost impossible that results so perfect and complete can be attained by so simple means, possessing entire control of the fire and yet varying with great sensitiveness to suit every change in the heat. Should a person sit with a thermometer in his hand and give his whole time and attention to the regulation of his stove, he could not do it so perfectly as is effected by this simple and elegant contrivance.

Not the least among the good qualities of this article is its great economy in the consumption of fuel. It is estimated that from one half to three-fourths of the heat from the fuel consumed in an ordinary stove, is carried off by the current passing through it to the chimney. In his stove, no more air being admitted than is necessary to produce the degree of heat at which the stove is regulated, very little current is made, and nearly all the heat is expanded in the room. And besides, the smoke and cinders being long retained in contact with the fire, are mostly consumed.

The saving of time and trouble in attendance upon this stove is no small item. The fuel being permitted to burn no faster than is wanted, enough may be put in at once to last 12 hours or more, and is converted into a bed of charcoal which is gradually consumed, but no faster than is required. A person may go from home and leave his stove through the day or night and when he returns find it at precisely the same temperature at which he left it.

The peculiar mildness and softness of an invariable temperature so much resembling that of a pleasant summer's day is greatly conducive to health and invaluable to the invalid.

Indeed we can hardly conceive of a desirable quality to be attained in a stove which is not possessed by this; and we recommend it to the public as well for its substantial usefulness as for the elegance and ingenuity of its contrivance.

MULTICAULIS PAPER.

We noticed recently that paper had been manufactured of asparagus and other vegetables, and also that at Petersburg, Va., the leaves of the morus multicaulis had been used for that purpose. The *Richmond Inquirer* has the following paragraph on the subject.

"Dr. Spencer, of Petersburgh, has been polite enough to forward to us a quire of his paper, manufactured from the leaves of the morus multicaulis. We have printed them off with this day's impression of the Enquirer, and they will be deposited in our office for general inspection. The paper is very substantial and glossy; and singular to say, that whilst it is manufactured of the *Chinese* Mulberry, it has the agreeable odour of the best Chinese green tea. We are not aware of the nature of the process employed by doctor Spencer, nor of the time, nor expence, which may be necessary to prepare the leaves for the paper vat—but we trust that they may be such as will enable the manufacturer to substitute them, to a certain extent, for rags, which are generally expensive and difficult to procure. We shall watch the progress of this discovery with curiosity and with interest.

COLT'S SUB-MARINE BATTERY.

Yesterday afternoon, at four o'clock, the Battery was thronged with an immense crowd of spectators, waiting to see the result of the trial of Colt's Submarine aparatus. Castle Garden also, was filled with spectators, and numbers put off from the shore in boats, to observe the result of the experiment. The vessel to be blown up, lay moored in the stream, about a hundred yards from Castle Garden. She was a brig of about 300 tons. Her masts were standing as high as the top mast; but, with the exception of a few ropes to serve as stays, all her rigging was taken off. Colt, the operator, stood upon Governors Island, from which wires extended to the powder beneath the vessel, a distance of half a mile. The signal concerted was the firing of three guns, one after the other, from the North Carolina; the two first as alarm guns, and the last as a signal. The third gun was no sooner fired than instantaneously almost the electricity was communicated through the wires to the submarine magazine, which exploded, throwing up the vessel in fragments, seen with difficulty here and there amid an immense mass of water and smoke. The water was thrown in a column to the height of nearly 100 feet. When the agitation subsided, nothing was seen of the vessel, save in the form of pieces of boards, heavy masses of timber, and a portion of the hull.

The result of the trial was highly satisfactory, and a loud shout from the multitude on shore testified their approbation. There is do doubt that this aparatus can be used with effect upon a hostile vessel blockading a harbor. The force of the explosion was prodigious—as was shown by the sudden raising of such a mass of water to such a height, and by the total dispersion of the timbers of the vessel. As a winding up to the whole, numerous boats with boys who seemed to be of the opinion that all theory should be made subservient to practice, were engaged in securing loose timbers and towing them off, with a view to make a practical use of them.—*Jour. Com.*

FORGING MACHINE.

At a late meeting of the British association, in Manchester, "the lion of the exhibition" was a machine for the working or forging of iron, steel, &c. This truly surprising machine is quite portable, occupying only a space of 3 feet by 4 feet, and is purely original in principle, as well as practical in its application. It may be worked by steam or water power, and when moved by the former, as was the case at the exhibition, it made 650 blows or impressions per minute. There are five or six sets of what may be called anvils and swages in the machine, each varying in the size. The speed and correctness with which the machine completes its work is perfectly astonishing, and must be seen in order that its capabilities in this respect may be duly appreciated; for instance, when it was put into motion for the purpose of producing what is known as a roller, with a coupling square upon it, (and which had to be afterwards turned and fluted,) the thing was accomplished in fifty seconds, of course at one heat, to the astonishment of the bystanders. But what appeared as the most extraordinary part of the affair was that the coupling square was produced direct from the machine, so mathematically correct that no labor can make it more! The machine will perform the labor of three men and their assistants or strikers, and not only so, but complete its work in a vastly superior manner to that executed by manual labor. For engineers, machine makers, smiths in general, file makers, bolt and screw makers, or for any description of work parallel or taper, it is most especially adapted, and for what is technically known as reducing it cannot possibly have a successful competitor—in proof of which it may be stated that a piece of round iron 1¾ inches in diameter was reduced to a square of ¾ inch, 2 feet 5 inches long at one heat. The merit of this invention belongs, it is said, to a gentleman at Bolton, of the name of Ryder.

PROCESS FOR TEMPERING STEEL INSTRUMENTS.

A correspondent has given us the following account of a process by which steel may be tempered so as to retain its maximum of tanacity. This object, which will be of much importance to many of our readers, is attained without bringing the instrument subjected to the process, into immediate contact with the fire, air, or water. Our correspondent speaks with a particular reference to drills for piercing gray cast-iron, porcelain, &c. probably on account of the greater importance of a well tempered instrument; but it is evident that the process is equally as applicable to every instrument in which a good temper is of particular importance, whether a tool or an instrument of common use, as a razor or a knife. The following is the process:—Prepare Park's fusible alloy by melting in an iron ladle, with a a little resin five parts of bismuth three of lead, and two of tin. Make a tube of wrought iron, with a welded bottom and a well-fitted iron stopper.

Then fill this tube with the above alloy, and introduce therein the instrument to be tempered, and put in the stopper which would be somewhat tapering, so as to enter the alloy and keep the instrument below the surface; of course the tube will be only so far filled with the alloy, as to allow room for the dilation of the metal without the displacement of the stopper. Then bring the whole to a bright red heat, and afterwards plunge it into cold water. Take out the stopper and reverse the tube in boiling water, when its contents will fall out and the operation is completed. If it is to be a drill which has been subjected to this process, it will cut glass and preserve its sharpness during many repeated trials, if kept moist with oil or turpentine.—*Mech. & Farmer.*

PENCILS.

It is commonly supposed that Lead Pencils are made of simple plumbago, and that the difference in quality is owing to the different degrees of purity of plumbago employed in their manufacture. Ure's Dictionary of Arts &c. states this to be erroneous, except in relation to the poorer kinds, which are made by sawing the plumbago into parallelopipeds which are then confined in cedar cases. But the nice drawing pencils and those made for carpenters' use, are a mixture of clay and plumbago. The clay, which should be pure and fine, is levigated with water, then mixed with a considerable quantity of it, and thoroughly agitated, when it is left to settle for two minutes. The water is then drawn into another vessel, and suffered to deposite what it will of the clay it still holds. It is then decanted and the clay received on filters and partially dried. Plumbago ground to an impalable dust is now mixed with the clay dough in proportions according to the degree of shade the pencils are destined to have. This being done, the paste is crowded into a channeled board, on which when the grooves are filled, a plain board is firmly screwed. The whole is now baked in an oven, in degrees proportioned to the desired hardness or softness of the product, the hardest requiring the greatest heat. The baking shrinks the paste so that they will all fall out by simply turning up the board on edge, and are perfectly strait and ready for the cases, unless the glossy appearance is wished to be overcome, in which case they are dipped in hot oil before being enclosed in the cases.—*Westfield Mess.*

RESERVOIR.

We had shown to us yesterday the model of a contrivance for the outlets of canals and mill ponds, called the canal bank and mill dam reservoir, which strikes us, as well worth the public attention. It is the invention of Robert Robinson of Greece, Monroe county, and is designed to keep the water in mill ponds or canals, at any desired level, in case of a sudden freshet. The machine is self acting, and from the appearance of the model, there can be no doubt that it would work well in practice, and prevent the disaster so commonly the result of a sudden rise of water.—*Albany Argus.*

Original.

MY DAUGHTER'S GRAVE.

BY JOSEPH H. BUTLER.

Pale mists obscure the autumn sun,
The silent flowers close one by one,
Or withering on the fading stem,
Strip Flora of her diadem.
Silence this sacred spot pervades,
Keeps vigils in these solemn shades,
Where the dark pine trees' gloomy wave
Shadows the mound of Mary's grave.
The birds erewhile of blithsome note,
Dull on the wings of silence float.
All nature tells a change is nigh,
For bathed in glory she shall die;
Yet beauty lingers still,
Each valley, grove and hill
Assumes a robe of richest dye,
Wove in the bright woofs of the sky,
By hands of immortality.
What makes this season thus so dear
To him who mournful lingers here?
Bending by this white monument,
Communing with deep thought intent?
This tomb, oft wet with many a tear,
My Mary's dust reposes *here*.
And when pale autumn's wailing gale
Sighs through the melancholy vale,
It wakens memories of the day
That snatched her from our arms away.
Yet weep not for this flow'ret riven,
It perished here to bloom in heaven.
Oh check the impious wish that bids
Her lift those silken lids.
Great ordeal of affection this,
To think our sorrow is her bliss.
We know that she is happy now,
And fadeless beauties deck her brow.
Bright o'er yon cloud-piled battlement
The crescent moon is rising slow,
Close in the pathless firmament
Like molten silver shines her bow.
And as unnumbered eyes of brightness
The stars their sleepless watch are keeping,
Till rock and river bask in lightness,
And forests in their sheen are sleeping,
My daughter, where art thou, I cry—
My daughter where art thou, reply
Some low-voiced echo unto me,
In cold, unearthly mockery.
My little saint, now thou'rt above,
Plead for thy parents in thy love.
Yes, plead for her who watched thee here,
With all all a mother's anxious care.
My daughter, I had planu'd full much,
And many visions wrought,
In vain, for now alas 'tis such,
Death came, and thou wert nought!
Well, we may not recall thee here,
Since thou hast passed his rule of fear;
Yet shortly we will come,
To his dread stream, and plunging there,
By God's high might and Mercy's care,
May join thee in thy home.

LITERARY ERRORS *vs.* SCIENTIFIC FACTS.

In your paper of the 8th of October I have read an article headed "American Antiquities," in which you refer to Schoolcraft's description of the prints of human feet, in the limestone, at St. Louis, and of which you say, "every appearance warrants the conclusion that these impressions were made at a time when the rock was soft enough to receive them by pressure, and that the marks of the feet are natural and genuine." Soon after Mr. Schoolcraft published his account of these impressions, some geologists, from examining the rock where they occur, imbibed doubts of their being real impressions; but the statement having gone forth, and being copied by several European geologists, sometimes with the very natural error that the prints occurred in *sand stone*, it became difficult to correct the influence it had received. The whole matter has, however, now been put beyond the reach of farther cavil by a more strict examination of the rock itself in which the prints are found. This has been done by *D. D. Owen*, M. D., of Indiana, who has given the result of his labors in the number of Silliman's Journal of Science for July last. By the organic remains (shells) which he found, in the same slab containing the foot marks, Dr. Owen has found this limestone to be older than the coal formations of our globe, and of course to have been long anterior to man, upon the earth. The prints in question, then, are the work of art, at some period since the upheaval of the rock from the bed of the ocean where it was formed, at the time of the general elevation of this continent, in whole or in part.

In the hope of rendering a service to the class of readers for whom your pages are designed, I will remark that an editor can scarcely fail to inflict rank error, and that almost perpetually, if he depend upon *literary* books or periodicals, for *scientific* facts. That this remark may not seem harsh or inconsiderate, I will cite a few examples.

To begin, with the familiar case of our common figures. These are constantly stated to be Arabian, in so much that we usually designate them Arabic, in contradistinction to the Roman numerals. But they are of Hindoo origin, and the Arabs only brought them from India to Europe.

Algebra, also, is as constantly referred to the Arabs for its origin, and so is arithmetic; while, in truth, they invented neither—both having come to us from India.

In astronomy the case is no better. Comet's tails, says *literature*, everywhere, are always directed from the sun; when, in truth, they occupy every conceivable position, relatively, to the sun. That Herschel discovered Uranus to be a planet; that he did this with his forty feet telescope; that in this telescope the Dog Star appeared as *large* and as bright as the sun; that Newton had his attention first called to the subject of gravity by the falling of an apple from a tree; are assertions which are daily met with in *literary* reading, and yet not one of these positions has the least claim to truth or belief. These are but illustrations of a general principle that seems alike applicable everywhere, in matters pertaining to science. Not only do literary writers mistake scientific facts, continually, but no less frequently do they equally mistake the history of these. It is but a short time since one of our "most popular literary periodical publications of the day" stated that Robert Fulton invented the steam engine!

But, enough—I only cite these instances to justify my remark, and not for the purpose of criminating any one. If the hint thus given shall induce your readers to resort to the proper authorities for scientific knowledge, I shall enjoy the satisfaction of having rendered a service to a very worthy and useful class of community.

Yours, &c., R. W. HASKINS.

Buffalo, Oct. 12, 1842.

KATHARINE PARR'S NEEDLE WORK.

At no other period of her life than the interval between her mother's death, and her own marriage with Neville Lord Latimer, could Katherine Parr have found leisure to embroider the magnificent counterpane and toilet cover which are proudly exhibited at Sizergh castle as trophies of her industry, having been worked by her own hands during a visit to her kinsfolk there.

As the ornamental labors of the needle have become once more a source of domestic enjoyment to the ladies of England, and even the lords of the creation appear to derive some pleasure as lookers on in tracing the progress of their fair friends at the embroidering frame, a brief description of these beautiful and well preserved specimens of Katharine Parr's proficiency in that accomplishment may not be displeasing.

The material on which both counterpane and toilet-cover are worked is the richest white satin, of a fabric with which the production of no modern loom can vie. The centre of the pattern is a medallion, surounded with a wreath of natural flowers, wrought in twisted silks and bullion. A spread eagle, in bold relief, gorged with the imperial crown, forms the middle. At each corner is a lively heraldic monster of the dragon class, glowing with purple, crimson and gold. The field is gaily beset with large flowers in gorgeous colors, highly embossed, and enriched with threads of gold.

The toilet is *en suite*, but of a smaller pattern. The lapse of three centuries has scarcley diminished the brilliancy of the colors or tarnished the bullion, nor is the purity of the satin sullied, though both these queenly relics have been used on state occasion by the family in whose possession they have remained as precious heir-looms and memorials of their ancestral conexion with Queen Katharine Parr.—*Miss Strickland's Queen of Eng.*

TREASURE SHIP TELEMAQUE.

The preparations for raising this vessel (whose fate is so well known to Europe) by machinery constructed on new principles, are now nearly completed, under the direction of Captan Taylor, an English engineer. As the time for weighing approaches, the interest which the French public have always taken in the romantic history of the ship begins to revive.

The genral impression is, that she contains immense treasure in coin, plate, and jewelry, which Louis XVI. and Marie Antoinette, joined by many of the nobility and the heads of several churches and religious houses, had endeavoured to transport in her and another vessel to England when the terrible events of the revolution began to show themselves. The vessels were ostensibly freighted with oak timber, and were chartered at Rouen.

They stood down the Seine, but the popular chiefs in Paris having received information, sent orders to seize them. The smaller one, a schooner, was captured, and her contents (among which was found a quantity of rich plate) were sent under a strong escort to Pont-au-de-mer. The larger, the Telemaque, endeavoured to run down the river, but on coming amongst the dangerous quicksands opposite Quillebœuf, she touched the bottom. Before anything could be done, the tide returning in the form of a *bore*, as in the Severn and Ganges, threw her over, and at low water she had sunk through the sandbank. This occurred on the 3d of January, 1790. Immediately the revolutionary government sent from the dockyard at Cherbourg a flotilla with 300 men, a variety of engines and tackle, to raise the wreck. The party perserved for three months, but did not succeed. Attempts have been made under succeeding governments, but always attended with the same results. After these repeated failures the government has granted licences under certain conditions, and for a certain time, to persons who have undertaken to raise the ship, the principal feature in the agreement being that the speculators were to work at their own expense, and that, the salvage being effected, one-fifth of the proceeds should first be handed over to the minister of marine for the benefit of the invalids of the marine.

Capt. Taylor and a comyany of English engineers are now engaged in making the attempt and they expect to be successful—the king and royal family are looking anxiously to the result. The value on board is supposed to be from thirty to eighty millions of francs—The celebrated diamond necklace of Maria Antoinette is among the articles.

COST OF SELF-INDULGENCE.

A single gambling house in London cost, not long since, with its furniture, $500,000 and the receipts of the proprietor in one year amounted to just about the same sum. The money lost annually in all the gambling houses in that city exceeds $35,000,000. In one house alone, $5,000,000 was recently lost in one night. One nobleman pays $1500 a year for a single box at the opera. On the two articles of tobacco and ardent spirits, Great Britain spends more than $125,000,000 annually.

ALBANY, SATURDAY, OCT. 22, 1842.

MECHANICS AND FARMERS.

Our exchanges have literally teemed of late with accounts of fairs, exhibitions of agriculture, &c., &c., not only in our own, but in the surrounding, states. Now though the mechanic who manufactures agricultural instruments may, and *does*, deservedly come in for a share of public notice and public praise. Yet the mechanics, the *artizans*—if the term is better suited to more polite ears—as such, have done comparatively little. True, the hurried exhibition at the fair in this city, as well as the recent displays at New York, Boston and Philadelphia, show that the right spirit is abroad, but it is not to these that we look with so much hope as we do to similar demonstrations, although on a much smaller scale, in our counties and villages. The friends of agriculture have effected so thorough an organization that in nearly every county of the state they are enabled to arouse and stimulate to *action* the farming community, and we see as the result that county societies have their own fairs and award their own premiums. This is one of the effects, only, of *organization*. But it is urged that the farming community have not only the influence of capitalists and "city farmers," but also aid from the state. And this is so. It is true that there are thousands who have really no more claim to the title of *farmers* than the queen of England, who are nevertheless loud in their pretensions to the name, and are ambitious, both by their money and influence, to secure the title, and prove themselves to be such. And that it is these who are mostly engaged in getting up agricultural exhibitions, cannot be doubted. But to this we do not object; it is right, and we rejoice that it is so. But we do and must deprecate that servile feeling which prompts our fellow citizens to act in these matters simply because the rich and influential are engaged in them; because that such an act would add something to a false standard of respectability, which does not really exist in good society. The state too has appropriated no small sum to aid her citizens in these matters. To this in itself we do not object—but while our state does this to promote the agricultural enterprize, why we ask, does she deal so hardly with her mechanics, who are equally worthy her care? Why does she compel them to support her prison system and her convicts? Are not the mechanics as worthy a body as any other? Are they not as good citizens—in fact are they not as indispensable, and have they not contributed as much to her glory and her prosperity? We will not answer such questions as these but by asking, why then does she not do justice to one class before she is generous to another?

No one is so blind but that he admits at once the correctness of the old saw, "*be just before you are generous*"—we said *no one*, but certainly our citizens, judging from their conduct in this instance, have yet to learn this adage. Be it far from us to ask the state to withdraw its aid from the promotion of this interest. It is meet that it should be so, but in the name of Justice let us ask, why is this burthen thrown upon the mechanic alone, while favors are showered upon the agriculturist? We do not, cannot believe that the farmer will ask for the continuance of this wrong. We do not believe that the most selfish *can* ask it, from his heart. We give too much credit to the professions of that class to believe it, and we trust they will not be backward to second the claim of their fellow-laborer the artizan. Fellow-laborer, did we say? Yes, and one on which he, with the rest of society, is in no small degree dependant.

But we are wandering from the point first adverted to. Notwithstanding popular prejudice and legislative favor is on the side of the agriculturist, cannot the mechanic still do something? Yes, he can do *much!* That thus far he has not, we well know, and he well knows; and perchance the question now arises in many minds—how? In answer we repeat what we have said a thousand times—organise—ASSOCIATE—the latter is the better term.

Now the long nights of winter are coming on—and now if ever is the time to begin. Form associations not only for purposes of mental improvement, instruction and amusement; but also that you may be the better able to co-operate and sufficiently too in those great measures that may be adopted to procure a release from the burdens under which you now labor. Not only then procure lecturers, able lecturers, and there are enough among us who are ready for the task, and all they ask but that their expenses may be borne—procure these and commence the work. Act energetically, act like mechanics, like men! Small difficulties should not weary you, nor great ones retard.

HORSE SHOEING.

A mechanic who does his work well, generally secures customers, though his ingenuity may be balanced by many failings. The blacksmith who is noted for his skill in shoeing horses soon becomes widely known among the owners of those valuable animals, and many think they can trust their horses with no one else. It is an operation that requires great skill and care, not only in the nice adjustment and fastening of the shoe, but that the horse is not lamed by being pricked, as is sometimes the case, by a careless or inexperienced hand.

There is a method pursued in shoeing horses for the chase that insures against the loss of a shoe in the longest day's hunt, which may not be known to all. It is, as fast as the nails are driven to bend the points down to the hoof, without twisting them off, as many do, with pincers. When these are *driven home*, they may be clinched against a heavy pair of pincers, and then each nail twisted off as close as possible to the hoof; the pincers being dull, the nail will hold so as to get a perfect twist round before it separates. Those twists should then be beaten close into the hoof, and filed smooth, but not deep, or so as to rasp off the twist of the nail. The nails being thus driven home and clinched before they are twisted off, form a rivet as well as a clinch. Any one who will examine the clinch of the nails of an old shoe, which have drawn out of the hoof, will perceive how this operates. If the nail be driven home before twisting off and the rivet formed by the twist be not afterwards rasped off, it will be difficult to conceive how the shoe can get off unless the twist be first cut out.

A GLANCE AT THE ARTS IN THE FAIR OF THE AMERICAN INSTITUTE.

The *Great Lamp* first meets the attention of the observer at the fair, standing out doors, as it is quite too large for "house room." It is 16 feet high and 5 feet diameter, composed almost entirely of beautifully variegated stained glass, ornamented in the most beautiful and gorgeous style. It is to stand near the door of a store in New York, and as a specimen of the art of staining glass, until lately lost to the world, it has hardly an equal in the country, as it has none in magnitude.

In the vicinity, outside, are also to be seen numerous agricultural implements of the most improved kinds, such as mills for cleaning wheat, corn-shellers, chaff-cutters, threshing machines, etc., which must be seen to be appreciated. There are also machines for drilling, washing, rotary bleaching and steaming, with various and important improvements.

Within are a number of curious machines for making ship biscuit and crackers, *without the aid of manual labor;* also for cutting sashes for window frames, with great rapidity. A machine for planing iron is a great improvement, and one which must come into general use. It planes strips and bars of cast and wrought iron, with the greatest ease and celerity. There is a tanning machine of very ingenious contrivance, for pressing hides, thus depriving them of the tanning liquid, and then immersing them again therein. It saves by these operations all those of manual labor in the tan yard called *handling*. Specimens of perforated zinc, for the purposes of window blinds, meat safes, &c., are valuable. Also metallic respirators, for those affected with pulmonary complaints, when exposed to cold air, &c.—the first exhibited of American manufacture. The specimens of *hempen hose*, an entirely new article, cannot fail to prove of the greatest importance, and may supersede the use of leather. As there is no seam, of course there is no danger of leakage, and its cheapness and easy manufacture give it signal advantages. A sifter of coal ashes possesses many advantages, and attracts much attention. The machine is turned with a crank, and the ashes are poured into a rough box; and the whole is therefore simple and cheap.

There are several models of bridges, one or two of which possess decided advantages. The steam engine from the Novelty Works, constructed for the Hudson canal company, is a highly finished and an admirable specimen of work. The model of the engine on board of the steam frigate Kamschatka, and that for driving piles, likewise attract much attention. Sacket's machine for making silk braid is deservedly praised. The easy and other chairs are constant themes of praise, especially with those who, getting fatigued *en route*, with viewing the interesting objects of attraction, seek momentary rest. Some of these are indeed the easiest contrivances for the sick, weary or lazy that we have seen. A cradle quilt, very naturally perhaps, attracts the attention of the ladies, nor less the curious of both sexes, composed as it is,

of the carcases of more than *fifty geese*, with the down upon them. It is beautifully ornamented, and variously colored, and, as will be admitted withal, a great curiosity.

The solid-headed American pins, are worthy of special notice. Their superiority over the cheap foreign article, glutting the market and balking the industry and enterprize of our own countrymen, will be at once admitted, and especially as they are afforded cheaper than the English article. The price of these pins, it is worthy of remark, has also fallen considerably since and as a consequence of the tariff. These are striking evidences in favor of encouraging the industry of our countrymen. The factory is at Birmingham, Conn., and the pins are sold at 64 Pine and 189 Pearl sts. New York. An article on the manufacture of American pins may be found in a previous paper.

We saw Prof. Morse's magnetic telegraph, which promises the greatest advantages to society. But of this and the audacious claims of some Englishmen to the invention, *five years* after those of Mr. Morse, we shall allude to again.

Holt's machine for screw bolts and nuts, greatly accelerates their manufacture, and attracts the attention of the workers in iron and the curious generally. The new machine for grinding paints, drugs, or any article containing grit, is said to be a signal improvement, and well worthy the attention of all using or dealing in those articles.

The specimens of silk are truly splendid, and surpass any before exhibited in this country. The American harps we have before spoken of, but the specimens of brass and copper musical instruments from Firth & Hall's, N. Y., are of beautiful workmanship.

The specimens of cloth *made without spinning or weaving* are, of course, much admired. This is an American invention of great merit, and the broadcloth made with it, when worn, consequently shows no thread. An improvement has just been made and patented on the machine, which, having seen, we promise will prove important, when known and used. We are at liberty to say no more of this at present.

The race boat "Cimbria," clinker built, is an elegant model, 30 feet in length, weighing only 190 pounds, made of 14 different kinds of wood, in pieces, secured by 2458 copper rivets. The variety of stoves is very great, but we noticed no very great improvements; the cooking ranges are very beautiful. The tide water wheel is worthy of special notice; it is an under-shot wheel, adapted to any stream having a strong current. By means of a chain and pully it adapts its position to the rise and fall of the water, so that a dam is rendered unnecessary, and the power may be applied with little expense to most useful purposes.

The chronometers exhibited are of the most perfect workmanship and graduated to the 300th part of a second. An equitorial mounted telescope of superior excellence, and of American workmanship, does great credit to the manufacturer. In connection with these, and of American ingenuity, are also numerous mathematical and optical instruments of unsurpassed workmanship. A clock likewise, of complicated structure, which runs 375 days for each winding up, has a brass bolt pendulum, revolving in alternate directions, by means of the twisting of a silk thread, is also an admirable specimen of art and ingenuity. A life preserving settee, consisting of a box beneath the seat filled with air, and calculated for steamboats, is deserving particular attention in these "piping times" of reckless sacrifice of human life on board such vessels. The chair, which is emphatically all things to all men, and for all purposes, very naturally attracts universal attention. It is an ottoman, a bed, an easy chair, a shaving and dressing apparatus, a writing desk, and other things quite "too numerous to mention."

There is a remarkably pure and rich specimen of fossil salt, from a Virginia mine, that looks, and doubtless is, "good enough to eat." It is said that the mine from which this was taken is inexhaustible. The specimens of cut glass and glass ware are of very superior kinds and qualities. The encouragement now afforded the citizens in this branch of industry and skill is sufficient to produce the finest work, and relieve us of the refuse stuff from England, which has so long deluged our market and put our laborers at defiance.

"Hunt's patent lamp for burning *without wick*." This is one of the most useful inventions of the day; and though, as we understand, another person has obtained secret possession of the principle and is exhibiting at the fair, yet Mr. Hunt being the inventor, his admirable lamp will constitute a new era in the use of domestic light. We have seen it in operation under various circumstances, and rarely have we seen so brilliant a light as that which it produces. No one need be reminded of the great saving of time and trouble by the use of this lamp. When they are required to be stationary, as in many stores, &c., in most public places, a pipe leading along the wall over the lamp from a keg or can placed in a corner of the room, will furnish a continuous supply of the material, so that nothing can be more cheap, more brilliant, or more convenient than these lamps.

There are numerous other valuable improvements in machinery and specimens of the arts, which we shall notice in our next.

GREAT CELEBRATION IN NEW-YORK.

Friday, 14th inst., was a great day in the metropolis—greater, probably, in the length of the procession and the general interest of the occasion, than any which has preceded it. The subject of the celebration was indeed worthy of all the display and joy which characterized the day. A truly great work was then accomplished, a work which defies a parallel in any part of the world, and places our own commercial capital proudly pre-eminent among the cities of the earth. Alone and single handed has she done this, and therefore well may she rejoice. Thousands of mechanics have for many years been engaged in this extraordinary enterprise, and years still are requisite to finish every part of it, and bring the water within all the houses. Forty two miles this water is conducted to the city, in an aqueduct, over valleys and under mountains, across streams and through rocks, in a manner altogether beyond our time or space to describe, and at an expense, too, of near fourteen millions of dollars! Every improvement of modern art and discovery in science has been introduced that was calculated to facilitate, beautify, strengthen or cheapen the price of this truly great work, and how successfully have all these been accomplished. The fountains in the parks are greatly, and, we need not say, justly admired, both as specimens of ornamental art and of ingenuity; in truth, they are said to be unsurpassed by any others of the kind in the world, and are therefore flattering evidences of the skill of American mechanics.

But in admiration of the skill, labor and perseverance of our countrymen, we had almost forgotten to notice the celebration of their wonderful results, on the occasion alluded to. Never have we seen, and never shall we see again, probably, so large and so finely looking a body of firemen as we saw at this celebration. The engines were in truth gorgeous, which, with the companies attending them "in lengthened lines long drawn out," extended nearly two miles. The military made a great display, both in numbers and dress. The foreign companies vied with each other in appearance, and displayed some extravagances that struck us unfavorably. Nothing can be more objectionable than the banding together of aliens and adopted citizens, *exclusively*, in such large bodies. They profess to have come among us to *unite with* Americans; this we expect; but not to *arm* themselves, nor preserve their own foreign habits, feelings, language and prepossessions.

The butchers and temperance societies made a great parade, with banners and emblems, such as we have not space even to enumerate, much less describe. No one can gather, from a brief notice, any thing like an adequate idea of this celebration; suffice it to say that the procession was about *seven miles in length*, with from two to six abreast!

The procession and the grand review in the park ending, the president of the Croton water works formally tendered, in a speech to the corporation and citizens, the great work the commissioners had thus brought to completion. The sacred music society, with about two hundred performers, then sung the ode written for the occasion, printed in the procession, the effects of which were soul-stirring. The fountains, during all these displays, spouted high and in fantastic forms the bright liquid element, as if participating in the joy that animated the surrounding throngs. The basin of that of the City Hall park is one hundred feet in diameter, with twenty six jets, throwing water sixty feet high, and in the following forms, as they have been called:

I. The Maid of the Mist,	IV. The Fan,
II. The Croton Plume,	V. The Bouquet,
III. The Vase,	VI. The Dome,

VII. Six, Four, or Three Inch Jet.

EXHIBITION OF THE FRANKLIN INSTITUTE.

The Franklin Institute of the city of Philadelphia are now giving their annual exhibition of articles of domestic manufacture, which opened on the 18th inst. And preparations have been made, as we understand, to insure such a display of articles as will give additional satisfaction of American labor, and strengthen the already irrefragable proof, that we are but little behind, and may be equal to, Europe, in the produce of all that ministers to the necessities, and even luxuries, of social life. The good results of the existence and labors of the Franklin Institute are found, wherever that society has turned its regards, and especially in the establishment of these periodical exhibitions of the manufactures of our country, by which comparisons are instituted, and improvements suggest-

ed. And especially will there be a benefit in making the mechanics and manufacturers of our country better acquainted with each other.

EUROPEAN WEAVERS.—The following are the average prices per week of the hand loom weavers of some of the countries of Europe, including the weavers of cotton, silk, linen, woolen, &c., in all their varieties, exclusive of board, and lights, &c.

Great Britain	$1.80 per week
France	1.68
Switzerland	1.25
Belgium	1.35
Austria	68
Saxony	45

The above statement is undoubtedly accurate, being derived from a report of commissioners appointed by the British parliament to investigate the subject, and who had ample means of acquiring information. The reader will easily imagine the hopeless condition of those men on being thrown out of employment. It is below that of the beasts of the field—for they are provided for. Can it be wondered then that riots should follow a stagnation of business, with death by starvation full before them?

BLUEING STEEL.—A correspondent wishes some further information of our friend at Maloneville, in relation to this process. For instance, what are the ingredients of the British potable blue, of which he speaks?

GAS FROM SOAP SUDS.—It appears from a foreign article translated for the Franklin Institute Journal, that the idea of extracting the fatty matter from soap suds, and of making an important application thereof, has been fully carried out in the city of Rheims. By submitting them to a regular purification is obtained a limpid oil, with which are prepared the soaps of commerce, while the residue of this purification serves for the production of a gas for lighting part of that city.

The particulars of this important discovery, and the process by which the oil and gas are produced being very simple, and which may be turned to very good account in this country, can be found in the September number of the above Journal.

MECHANICS' ASSOCIATION.—It will be seen by notice in another column that a meeting is called on Tuesday evening. All who are members should be in attendance.

SYRACUSE MECHANICS' ASSOCIATION.

We see by the following notice that the mechanics of Syracuse are in *operation*.

The fourth regular meeting of the Association will be held at the Presbyterian session room, on Tuesday evening, Oct., 25th, at 7 o'clock.

EXERCISES:—1st. An Essay by E. T. HAYDEN.

2d. Question for discussion—*Is a tariff for protection right and expedient for the people of the U States?*

Affi. { T. C. Cheney, / J. I. Bradley, } { D. C. Smith, / Luther Gifford, } Neg.

LUTHER GIFFORD, Sec'y.

There is no subject with which mechanics should be more thoroughly acquainted at this time than that of the tariff, for their interests are intimately connected with it. Discussing the question, at meetings like the above, leads to farther inquiry, and as it is a matter on which some of the most profound thinkes are divided, conclusions should not be too hastily formed by those who have not passed through the rudiments. Yet intricate as is the subject, since it has become a question on which the two great parties have determined to join issue, we see the great mass utterly ignorant as they are of its bearings, taking sides with their party, for or against it, and prating with wondrous earnestness of a *tariff for protection* and a *tariff for revenue*, and taking a discursive tour into the merits of the *distribution clause* and the *veto power*, which is determined beyond all farther dispute by an oath, or a blow. We have published the best articles that were furnished by our correspondents on both sides of this question in former numbers, which may be referred to by those who have files, embodying as they do the principal arguments of either party, aside from political bickerings.

SYNOPSIS OF NEWS, ETC.

There is now on exhibition at Boston, a remarkable prodcut of human industry. It is a piece of silk, about a yard sqare, cotaining a portrait of General Washington, the Declaration of Independence, fac similie of the signatures of the signers, which was woven in various colors during the past year, by HENRY HARDY.

The Wabash Courier says: "We should not be surprised if the lard oil making and corn sugar manufacturing would, in a year or two, become the staple business of the Wabash valley."

The lowest estimate of the crop in Texas the approaching season, is 60,000 bales, but it will be more, probably 70, 000, and many estimate it at 80,000 or 100,000.

The earnings of the Erie Railroad, only 46 miles long, during the last month of 26 working days, were as follows:—

Freight coming East,	$3,627,19
Freight going West,	3,249,52
Passengers fare,	4,109,69
Total earnings,	$10,986,40

This is almost equal to the Western Railroad, in proportion to the length of line!

The first practitioner of dentistry came from France, in 1784. He gave two guineas a piece for front teeth, taken out fresh, and transposed to the mouth of the patients. Plenty at that price in these times.

Three men, while working in the iron mines belonging to the Messrs Ellicott, near Baltimore, narrowly escaped a dreadful death on Friday last. About sixty feet depth of earth suddenly gave way above the mine. Two of them escaped without injury by improving a single second of time in getting from under the weight, but the third, Peter Rebhoon was caught, and had his thigh terribly shattered. He was not however injured in any other respect.

The Steamboat Merchant, which left New Orleans on the 2d inst., encountered a storm and went to pieces on the 4th; 8 of her crew and passengers perished.

The steamboat Great Western, freighted with cotton, from Columbia, Arkansas, for New Orleans, ran on a sand bar, about twenty-two miles below Natchez, on the 5th inst., and careened over. About five hundred bales of cotton went floating in the Mississippi.

The steamboat Oronoko, lying on the opposite side of the river from New Orleans, was burned to the water's edge on the morning of the 6th inst.,

H.B.M.Steam ship spitfire, was totally lost on the 10th ult. on half moon Key Reef. The officers and crew were all saved. It is said that every thing—hull and material, was wholly lost.

A gentleman at Red Hook, on the Hudson River, has this season sold twenty-four hundred barrels of apples, all of his own raising, for $3600.

Hannah Bromly and Adah Sines, in Meridth, spun during the week ending 1st inst., 27 runs of woolen yarn for warp, and reeled all themselves; the last day each spun and reeled 6 run, besides milking a cow.

The ancient and magnificent convent of the Dominicians of Vallada, in the kingdom of Leon, after three days conflagration has been entirely consumed.

The Croton jubilee, in the city of New-York on Friday, was an unequalled pageant, at least in this country. All accounts, verbal and written, so represent it. It was indeed worthy of the utmost manifestation of the public feeling and gratification, at the consummation of a work, surpassing, in this respect, all the gigantic works of art and labor, of the present or antient times.—*Argus.*

Vegetable and Animal Life.—Botanists record 56,000 species of various plants—38,000 are to be found in catalogues. Humbolt makes the species of insects 44,000, of fishes 2,500, of reptiles 700, of birds, and of mammiferous animals 5,000.

The large brass and iron foundry of R. C. Phillips, at Cincinnati, was destroyed by fire on the 11th inst., together with several wooden buildings adjoining.

The English language contains about 140,000 words, 15,000 of which are primitives; two-thirds are direct from the Latin or through the medium of the French; the rest are compounds from the Latin and Greek, aiding in the polish and beauty of the whole.

The bank of England has in its vaults about nine million of pounds, or over fifty million of dollars in specie.

In the reigns of the first kings Edward, of England, those monarchs always slept on straw beds, which were then the highest luxury.

The paper mill of Mr. William T. Parker, in Sudbury, Ms. was entirely destroyed by fire on Wednesday, 12th inst.

Mexico with the richest gold and silver mines in the world, is trying to borrow money in England, where the people are starving.

Mr. H. French, of Bethany, brought us a number of apples last week, which were entirely without seeds, and therefore a great curiosity to us. The fruit was finely flavored, and the tree yields well, but never an apple with seed!—*New Haven Palladium.*

Mr. Henry Schaffer, soap and candle manufacturer, of Philadelphia, hung himself in a shed attached to his house, on Friday morning last. He was laboring under alienation of the mind, caused by religious excitement.—*Pittsburg Sun.*

The great states of New York, Pennsylvania, and Ohio, are to be "redeemed, regenerated and disenthralled," (in big letters, too,) by one or the other of the great parties.—These states get redeemed and ruined very often.—*Ib.*

The arrival in Rome, of three steamers, constructed in England, for the pope, was the occasion of a popular feast, at which the principal functionaries of the state, the cardinals, and a distinguished number of foreigners assisted.

In consequence of the great and unexpected increase of female paupers at the New York alms house, the commissioners find it necessary to erect another building for their accommodation at a cost of about $1000.

The American Tract Society has within 17 years distributed 2,000,000 books, and 60,000,000 tracts.

The French beet-root sugar crop of the present year, is estimated at 64,000,000 pounds, equal to half the quantity imported from the French colonies.

It is a singular fact that on every court day in Matthews county, Virginia, it has rained, for the last eighteen years. Would the heavens weep if justice were done?

MECHANICS' ASSOCIATION.

There will be a meeting of the Albany county Mechanics' Association, on TUESDAY EVENING, October 25th, 1843, at half past 7 o'clock, at Leggett's rooms, Beaver street. A general attandance is requested. A. JONES, Sec'y.

AGENTS WANTED.

Mechanics out of employment may find it a paying business to solicit subscribers for this paper in their vicinities and among their friends. Applications, post paid, directed to this office will meet with attention; they should be accompanied by certificates of character and responsibility.

WEAVER & RICHARDSON, Umbrellas and Parasols made, covered and repaired, in the neatest and most durable style, at No. 66 Green street, Albany, opposite the first Baptist church. N. B. Umbrellas can be furnished by the dozen at short notice. 47

PRINTING.—Every kind of letter press printing will be done to order on short notice, at the office of the Mechanic, in the best manner and at reasonable prices. Business, visiting and wedding cards executed in a superior style on an hour's notice. New and fashionable type for books and pamphlets; hand bills of every size and style; circulars, bill heads, &c. &c.

MISCELLANY.

From the Northern Light.

THE FALLING STAR.

BY E. G. SQUIER.

What art thou, brilliant star?
From whence, to where, wing'st thou thy silent flight?
Who shoot'st thou o'er the bosom of the night?
Why gleams thy ray afar?

Art thou a spirit, sent
From heaven's empyrean to the slumb'ring earth,
Like that which lingered at a Savior's birth,
High in the firmament?

Art thou a ruby bright,
Dropt from the ringlets of an angel's hair,
And falling through earth's crystal air,
With thy celestial light?

Art thou an arrow, hurled
By the dread monarch of the yawning grave,
In mercy sent, to free the writhing slave,
The stricken of the world?

Or is thy errand, now,
To still the throbbings of a monarch's heart—
To blight the joy of youth—the loved to part—
Or chill the laurel'd brow?

Perchance thou art a ray
From off the altar of the living God—
A burning radiance to our lowly sod,
To light the perfect way!

Perchance, thou fleeting one,
Thine is the gleaming of that holy fire,
Which bids the spirit to its home aspire,
Its earthly sojourn done.

* * * * * * *

Whate'er thou art, thy ray,
Like Hope's fair star, o'er life's dark pathway streams,
Like that, alas! but for a moment gleams,
And ever dies away!

Bright star! the dreamy spell
That bound my soul, as thou did'st swiftly pass,
Like a sweet dream o'er Fancy's fairy glass,
Is broken now—farewell!

A FEW HINTS TO KEEP AWAY HARD TIMES.

Rise early in the morning, and be diligent during the day in attending to our business, and not worrying ourselves about our neighbor's concerns.

Give encouragement to home industry, and in all cases give the preference to American manufacturies over others.

Instead of following the fashions of Europe, let us cultivate a spirit of independence and decide for ourselves, how our coats, hats and boots shall be made.

Keep out of the streets unless business calls us to transact that which we cannot do in our stores, shops or dwellings.

By all means keep away from drinking and gambling houses.

When we buy an article of clothing, study commendable economy, at the same time get a good article, and when made take particular care of it, and wear it out regardless of any change of fashion. Fashion is a great tyrant, and men are fools to be slaves to it.

Stay at home nights, improve ourselves by reading, or instructive conversation, and retire to our beds at an early hour.

Be kind to relations, obliging to our friends, and charitable to all.—*Balt. Clipper.*

'TIS SAID THAT ABSENCE CONQUERS LOVE.'

There is not a word of truth in it if we can believe there is any sincerity in the following letter from a 'down east gal' to her lover in this state. Read and judge for yourselves:

Pettingilltown, June tu 1842.

Dear Josier:—It's now goin on three long and dreery years sens you've been out there in Lncyanna among Injons muskeeters, yaller fever and other heathens, and I really du bleeve I shall have tu cum out and see you if you don't cum tu sea me—I shouldn't kno you was in the land of the living at all if it wasn't for the newspapers you sumtimes send to me—they don't do a bit of good only I don't want you to stop sendin on 'em. Now you must cum home this summer and ease my mind, 'caus Liddy Biggerlow is goin to get married in Orgust and I olwers said I should be married fust. I would send you out some shirts and a pair of nankeen trowses I've been making for you, only there's no chance. You haint forgot the airly apple tree rite behind the barn, have you?—it hangs this year fuller than ever, and they'll be as meller as meal in about six weeks—jest about the time you arrive.

Your affeckshunate
Ruth Pettingill.

P. S. there's bin grate changes heer. Our old sider mill is tore down and they 're bildin a new one, besides we've dismissed our minister and Nancy tuttle has married Jack Stairns. You can't have no ideer what changes there has been, and in addition we have already commenced fatnin the old gobler agin you git hum.

P. and tu S's—However, my luv for you hangs on jest the same, and they say the trout bite this yeer better than ever. This I know will be good news for you.

So no more at present only that Jerushy Goodwin has got a baby and the very picture of its father. R. P.

QUAKER COURTSHIP.

Hum! yea and verily, Penelope, the spirit urgeth and moveth me wonderfully to beseech thee to cleave unto me, and become flesh of my flesh and bone of my bone.

Hum! truly, Obadiah, thou hast wisely said and inasmuch as it is written that it is not good for man to be alone, lo! and behold I will sojourn with thee; hum!

A very pleasant and quiet way of settliing such matter, and we recommend it to the *serious* consideration of our young beaux and belles—the belles, particularly—hum!

SCRAPS.

Care to our coffin adds a nail, no doubt,
But every grin of laughter draws one out.

"He's a first rate book *keeper*," as the literary man said of his friend who never thought of returning borrowed books.

"I'll be hanged if I do," as the prisoner said to the sheriff, when he very politely requested him to put his head in the noose.

"You take great airs," as the blacksmith said to the bellows.

The world owes us a living, but like many other debts in these times, it is pretty hard work to collect it, as many find.

"I'm over head and ears in debt," as the fellow said when he had on a hat that wan't paid for.

Twenty-eight millions of pounds of genuine coffee are consumed yearly in Great Britain.

Never rashly get up a fight with a piece of bread and butter; it is always better to eat than fight.

When you go by your neighbor's windows, be sure to look in. You may find out what they have for dinner.

The heart that is the soonest awakened to the flowers of life, is always the first to be wounded by its thorns.

We never knew a public festival yet, of any importance in this country, at which *the women* were not *drunk*. This is a solemn fact.

"Is your business so very *press*-ing?" exclaimed a fair damsel to the wooing printer, as he *embrace*-d her.

Why is a man with his eyes shut like an illiterate schoolmaster? Because he keeps his *pupils* in darkness.

Those who outlive their income by splendor in dress and equipage, resemble a town on fire, which shines by that which destroys it.

"I'm a northern man with southern principles," as the yankee said when he was eating rice and molasses.

Bowing is a science by itself, and must be attended to by those who would, by turning and twisting themselves, to keep in the sunshine of fashion. Bow very reverently low to a million of dollars, most respectfully to a hundred thousand, courteously to fifty thousand, coldly to five thousand, and never know poverty by sight.

SHERIFF'S OFFICE, City and County of Albany, Sept. 8th, 1842—ELECTION NOTICE—A general election is to be held in the county of Albany on the Tuesday succeeding the first Monday of November next, at which will be chosen the officers mentioned in the notices from the Secretary of State, of which the following are copies. AMOS ADAMS, Sheriff.

STATE OF NEW YORK, Secretary's office. } Albany, August 31, 1842.

To the Sheriff of the County of Albany:

Sir—Notice is hereby given that at the next general election to be held on the Tuesday succeeding the first Monday of November next, the following officers are to be elected, to wit:

A Governor and Lieutenant Governor of this State.

A Senator for the Third Senatorial District, to supply the vacancy which will accrue by the expiration of the term of Alonzo C. Paige, on the last day of December next.

Also, the following county officers, to wit: Three Members of Assembly.

Yours, respectfully,
S. YOUNG, Sec'ry of State.

STATE OF NEW YORK, Secretary's Office. } Albany, Sept. 7, 1842.

To the Sheriff of the County of Albany:

Sir—Notice is hereby given that at the next general election to be held on the Tuesday succeeding the first Monday of November next, a Representative in the 28th Congress of the United States is to be elected for the Thirteenth Congressional District, consisting of the city and county of Albany.

Yours, respectfully,
S. YOUNG, Sec'ry of State.

BOOK BINDING.—HARVEY H. CORNING, sign of the golden ledger, 82 State street, Albany, carries on the above business in all its various branches, viz: PLAIN, EXTRA and SUPER EXTRA—has a first rate RULING MACHINE and other necessary implements for manufacturing BLANK BOOKS of every description, on the most reasonable terms, of the best materials and workmanship.

N. B. An assortment kept on hand. 27.

LEATHER, OIL, AND FINDING STORE,

No. 18 *Hudson Street.*

J. HOCHSTRASSER,

Willcontinue the above business at his old stand, and having madearrangements with manufacturers of Leather and Morocco in the cities of NEW-YORK, PHILADELPHIA, and ALBANY, and having in his employ first rate workmen, he is enabled to supply his customers with all the articles in his line on the most reasonable terms, at *Wholesale or Retail*, the following are included in his assortment: Oak and Hemlock Harness, Bridle, Collar, Horse, Trunk, Valise and Skirting Leather; Hog Skins, Philadelphia Russet Bridle, do. Facing Skins, do. Lining Hides, do. Top Hides, Patent Leather, Couch Roans, Neats Foot and Liver Oil, Currier's Tools, Oak Sole Leather, Hemlock do., Wax and Grain Upper Leather, do. Calf Skins, Keen's Philadelphia do., Seal and Kip Skins, Splits and Welt Leather, Corduvan, Red, Green, White and Yellow Linings, Goat and Sheep Binding Skins, White Alum Dressed Linings, Dressed and Undressed Morocco, Colored Goat and Sheep Skins, English Shoe Thread of all numbers, India Rubber and Patent Cloth, Apron Skins, Stock Binding, &c.

N. B. An assortment of SHOE MAKER'S FINDINGS will be kept on hand.

Also, *Roller Skins, Engine Hose, Band, Picker, String*, an *Patent Leather*, on hand and made to order. *Albany*, 1841.

To Builders and Contractors.

THE subscriber having purchased Caldwell and Cameron's Lock Establishment, is now prepared to execute orders on their improved plan, in all the variety of Door Locks now used in the best style of building. The utility of these locks will at once be apparent to any one who may examine them. The principal difficulties existing in almost every lock now in use, and so much complained of by builders and house owners, in almost entirely removed. The simple but substantial application of the spring greatly lessens friction, and consequently lessens and tendency to wear. There is no liability in any of its movements, to get out of order, and any number of them may be applied with perfect ease and security to doors of various thickness, without the usual alterations, trouble and expense, that generally attend the putting on of locks, as is best known to the experienced builder. Their utility has been thoroughly tested by experienced men, for the last two years, with entire satisfaction, and are considered by all who have used them, equal and in many respects superior to any other kind of lock now in the American market.

All orders addressed to the subscriber, at the Furnace, Fonda-street, will receive prompt attention,

ROB'T L. CUNNINGHAM.

Schenectady, Nov. 20, 1841.

Reference may be had to any of the undersigned gentlemen who have given their approving card for publication.

We, the undersigned builders, have used Caldwell and Cameron's patent door locks, and from their simple construction, cheapness and general utility, do not hesitate to recommend them to the public, as equal to any lock of American manufacture now in use.

BOARDMAN & VAN VOAST,
GEORGE McBAIN,
HENRY MORSE, *Builders in Albany*
JOSEPH HORSFALL,
JOHN KELLY,
CORNELIUS THOMPSON,
ELIAS LYON, *Builders in Schenectady.*

I have during the past year, put on a number of Caldwell and Cameron's patent mortice and knob locks, and consider them the easiest to put on, and the best working lock I have ever used or seen. 37 JOHN RAYSIDE, Albany.

NEW YORK STATE MECHANIC,

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